

**CONDUCTIVE COMPOSITE FIBER AND CONTACT ELECTRIFICATION BRUSH COMPRISING THE FIBER**

Patent Number: JP11065227  
Publication date: 1999-03-05  
Inventor(s): TSUTSUMI HIDENOBU;; FUJIMOTO SHOZO  
Applicant(s): KANEBO LTD;; KANEBO SYNTHETIC FIBERS LTD  
Requested Patent: ☐ JP11065227  
Application Number: JP19970219582 19970814  
Priority Number(s):  
IPC Classification: G03G15/02  
EC Classification:  
Equivalents:

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**Abstract**

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**PROBLEM TO BE SOLVED:** To obtain a fiber which does not change its electric resistance in any environments, which is excellent in mechanical properties and which can uniformly electrify the surface of a photoreceptor by forming a fiber comprising a composite of a conductive component and a nonconductive component having such a core-sheath structure that the conductive component completely encapsulates the nonconductive component. **SOLUTION:** This conductive composite fiber is used for a contact electrification brush of an electrophotographic image forming device. The composite fiber is produced by joining a conductive component 1 comprising a thermoplastic polymer containing conductive fine particles and a nonconductive component 2 comprising a thermoplastic polymer. The fiber has such a core-sheath composite structure that the conductive component 1 completely encapsulates the nonconductive component 2. The thermoplastic polymer which constitutes the conductive component 1 and the thermoplastic polymer which constitutes the nonconductive component 2 are selected from the group consisting of polyamides, aromatic polyesters and polyolefins essentially comprising monomer units with  $\geq 10$  carbon atoms.

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